

IN THE UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF TEXAS  
DALLAS DIVISION

UNICORN GLOBAL INC., *et al.*, §  
Plaintiffs, §  
v. § Civil Action No. 3:19-CV-0754-N  
GOLABS, INC., *et al.*, §  
Defendants. §

**MEMORANDUM OPINION AND ORDER**

This Order addresses the construction of several disputed claim terms pursuant to *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). Plaintiffs Unicorn Global, Inc., Hangzhou Chic Intelligent Technology Co., and Shenzhen Uni-Sun Electronic Co. (collectively, "Unicorn") brought suit against Defendant Golabs Inc. and other defendants (collectively, "Golabs") for infringement of two United States utility patents: US Patent No. 9,376,155 (the "'155 Patent") and US Patent No. 9,452,802 (the "'802 Patent"). Having reviewed the relevant intrinsic evidence in the record, and such extrinsic evidence as necessary, the Court construes the disputed terms and phrases as provided below.

**I. BACKGROUND OF THE INVENTIONS**

The invention relates to a personal transportation device commonly called a hoverboard. Such devices generally consist of a platform to stand on with two wheels at

either end. In this version, the platform is divided in the middle, permitting each foot to rotate relative to the other foot.

## II. CLAIM CONSTRUCTION STANDARDS

### A. *Basics*

Claim construction is a question of law for the Court, *see Markman*, 517 U.S. at 391, although it may involve subsidiary factual questions. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 836-39 (2015). In construing the claims of a patent, the words comprising the claims “are generally given their ordinary and customary meaning” as understood by “a person of ordinary skill in the art in question at the time of the invention.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc) (citations and internal quotation marks omitted). Accordingly, courts must determine the meaning of claim terms in light of the resources that a person with such skill would review to understand the patented technology. *See id.* at 1313 (citing *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998)). First, “the person of ordinary skill in the art is deemed to read the claim term . . . in the context of the entire patent, including the specification.” *Id.* If the specification “reveal[s] a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess . . . , the inventor’s lexicography governs.” *Id.* at 1316. Likewise, if “the specification . . . reveal[s] an intentional disclaimer, or disavowal, of claim scope by the inventor . . . [,] the inventor’s intention, as expressed in the specification, is regarded as dispositive.” *Id.* (citation omitted). While the claims themselves provide significant guidance as to the

meaning of a claim term, the specification is generally dispositive as “it is the single best guide to the meaning of a disputed term.” *Id.* at 1314-15 (internal quotation marks omitted).

In addition to the specification, courts must examine the patent’s prosecution history – that is, the “complete record of the proceedings before the PTO and includ[ing] the prior art cited during the examination of the patent.” *Id.* at 1317 (citation omitted). “Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent.” *Id.* (citation omitted). In particular, courts must look to the prosecution history to determine “whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.* (citations omitted). “[W]here the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender.” *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003).

Finally, in addition to evidence intrinsic to the patent at issue and its prosecution history, courts may look to “extrinsic evidence, which ‘consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.’” *Phillips*, 415 F.3d at 1317 (quoting *Markman*, 52 F.3d at 980). In general, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.* at 1318.

When the intrinsic evidence, that is the patent specification and prosecution history, unambiguously describes the scope of a patented invention, reliance on extrinsic evidence,

which is everything outside the specification and prosecution history, is improper. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996). While the Court may consult extrinsic evidence to educate itself about the invention and relevant technology, it may not rely upon extrinsic evidence to reach a claim construction that is clearly at odds with a construction mandated by the intrinsic evidence. *See Key Pharm. v. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998).

#### ***B. “Nonce” Words and Means Plus Function***

Courts have held that certain terms are simply placeholders and invoke means plus function construction. The Court will address the terms below, but will preface that with an overview of the applicable legal principles.<sup>1</sup>

Three recent Federal Circuit decisions guide this inquiry. In *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015) (en banc),<sup>2</sup> the Federal Circuit considered the force of the presumption that use of the word “means” is necessary to invoke means-plus-function under 35 U.S.C. § 112, ¶ 6.<sup>3</sup> The Court held that the presumption is not strong. *Id.* at 1349. It further held that use of the term “module” invoked means-plus-

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<sup>1</sup>This discussion is taken from *SecurityProfiling, LLC v. Trend Micro America, Inc.*, 2018 WL 4585279, at\*1-2 (N.D. Tex. Sep. 25, 2018).

<sup>2</sup>Only Part II.C.1 of the opinion is en banc. *See id.* at 1347 n.3.

<sup>3</sup>After the prosecution of the Patents-in-Suit, this paragraph was recodified as 35 U.S.C. § 112(f).

function. *Id.* at 1350. Following the district court, it understood that “module” is simply a generic description for software or hardware that performs a specified function. *Id.*

Generic terms such as “mechanism,” “element,” “device,” and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word “means” because they typically do not connote sufficiently definite structure and therefore may invoke § 112, para. 6.

*Id.* (quotation omitted). The Court also found it unavailing that one skilled in the art could have programmed a computer to perform that function. “[T]he fact that one of skill in the art could program a computer to perform the recited functions cannot create structure where none otherwise is disclosed.” *Id.* at 1351. “The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.* at 1349. “When a claim term lacks the word ‘means,’ the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Id.* (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)).

In *Zeroclick, LLC v. Apple, Inc.*, 891 F.3d 1003 (Fed. Cir. 2018), a panel of the Court reversed a district court holding that “program” and “user interface code” were nonce terms under *Williamson*. The Circuit identified three errors in the district court’s approach. “First, the mere fact that the disputed limitations incorporate functional language does not automatically convert the words into means for performing such functions.” *Id.* at 1008 (citing *Greenberg v. Ethicon EndoSurgery, Inc.*, 91 F.3d 1580,

1583 (Fed. Cir. 1996)). Second, the district court wrongly removed the terms from their context. *Id.* For example, “user interface code” was not a generic black box, but a reference to a conventional program existing in prior art at the time of the inventions. *Id.* Third, the district court failed to make pertinent fact findings that the terms it identified were used as a substitute for “means.” *Id.* at 1009.

Most recently, in *Diebold Nixdorf, Inc. v. Int'l Trade Comm'n*, 899 F.3d 1291 (Fed. Cir. 2018), the Circuit reversed a ruling by the International Trade Commission. The case dealt with the phrase “cheque standby unit,” which is a component of an automatic teller machine (“ATM”). The cheque standby unit was described as an “escrow” where the ATM could hold a deposit after a customer physically placed items to be deposited into the ATM but before the customer had confirmed the transaction, to allow for the return of the deposit items if the customer cancelled the transaction. The Court held that “Diebold has shown that the term ‘cheque standby unit,’ as understood by one of ordinary skill in the art, both fails to recite sufficiently definite structure and recites a function without reciting sufficient structure for performing that function.” *Id.* at 1298. In reaching that holding, it noted that Diebold was not required to offer extrinsic evidence, but could meet its burden by relying only on intrinsic evidence. *Id.* at 1299-1300. The Court also held that the patent owner’s expert’s testimony did not show that “cheque standby unit” had a reasonably well understood meaning in the art, and simply described the phrase in terms of its function. *Id.* at 1300-01. The Circuit thus found that § 112, ¶ 6 applied, and then

held that the specification did not disclose sufficient structure corresponding to the claimed function so the claims with those terms were indefinite. *Id.* at 1302-03.

### **III. DISPUTED TERMS**

#### **A. “DISPOSED SYMMETRICALLY”**

##### Unicorn’s Proposal

arranged or positioned symmetrically  
not indefinite

##### Golabs’ Proposal

arranged such that there is correspondence in size, shape, and relative position of parts on opposite sides of a dividing line -- or indefinite.

##### Analysis

The patent refers to various pairs of things that are “disposed symmetrically.” The primary point of dispute is whether the things themselves must be symmetric, i.e., mirror images in shape. Unicorn makes two primary arguments. First, it makes a grammatical argument. The second word of the disputed term is “symmetrically,” which is the adverbial form of “symmetric.” The verb it modifies is “disposed,” or placed. Thus, “disposed symmetrically” refers to where the objects are placed, not the shape of the objects.

Second, Unicorn relies on two district court cases construing similar terms. First is *Cryovac Inc v. Pechiney Plastic Packaging, Inc.*, 2006 WL 956599 (D. Del. April 13, 2006). Plaintiff Cryovac accused Defendant Pechiney of infringing a patent for a

multilayered film used for, e.g., packing perishable food. *Id.* at \*1. One of the disputed terms referred to layers of film “arranged symmetrically.” *Id.* at \*2-3. Cryovac argued that this meant the order of the layers had to be symmetric: a/b/c/d/c/b/a. Pechiney argued that the layers had to be the same thickness and chemical composition. *Id.* at \*4-5. Relying on the grammatical argument that Unicorn makes here, as well as the fact that other claims addressed the chemical composition of the layers, the court held that “arranged symmetrically” referred only to the sequence of layers, not to their thickness or composition. *Id.* at \*5-6.

Unicorn also relies on the court’s opinion in *American Honda Motor Co. v. Coast Distrib. Sys., Inc.*, 609 F. Supp. 2d 1032 (N.D. Cal. 2009). The dispute there was regarding a patent for an improvement to an internal combustion engine. One of the claims referred to cam followers “symmetrically disposed” around the cam shaft. As here, Plaintiff Honda argued the term referred to placement and Defendant Coast argued it referred to shape. *Id.* at 1041. Relying on the same grammatical argument, as well as the dictionary and other uses of the phrase in the specification, the Court agreed that symmetrically disposed referred to position, not shape. *Id.* at 1041-42.

Relying on the grammatical argument, as well as *Cryovac* and *American Honda*, the Court agrees with Unicorn and holds that disposed symmetrically refers only to location and not to shape. The Court must then address Golabs’ argument that this construction renders the claim indefinite.

Golabs argues that the specification indicates that the various covers that are disposed symmetrically are “basically the same.” This, Golabs argues, must be construed as “functionally identical,” or else the claims are indefinite because a person of ordinary skill in the art (“POSITA”) would not know how much variation is permitted. This argument is a nonstarter because the Court has not construed “disposed symmetrically” to require that the things disposed be basically the same shape. Accordingly, the Court does not find “disposed symmetrically” to be fatally indefinite.

#### **B. “INNER COVER”**

##### Unicorn’s Proposal

plain and ordinary meaning

Alternatively, a cover that is not part of a top/bottom cover

##### Golabs’ Proposal

internal framework that provides firmness to the entire structure of the vehicle, protection of internal electronic elements and support for fixing internal components

##### Analysis

Golabs’ proposed construction loads up a relatively simple term with a variety of baggage from the specification. The Court declines that invitation. *See, e.g., Electro Med. Sys. S.A. v. Cooper Life Scis.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994). The term at issue is part of a larger phrase: “an inner cover fixed between the top and bottom cover.” While Unicorn takes the position that no construction is required, it also states: “it is unnecessary to redefine the term ‘inner cover,’ except to make clear that the inner cover is a separate

structural element that is fixed between the top cover and the bottom cover, and not a part of the top cover or the bottom cover.” Unicorn Opening Br. at 19 [112].

The Court will adopt that construction of “inner cover”: a separate structural element that is not a part of the top cover or the bottom cover. With that construction, the Court finds no need to further construe the longer phrase.

### **C. “ROTATING MECHANISM”**

#### Unicorn’s Proposal

plain and ordinary meaning

#### Golabs’ Proposal

Rotating mechanism fixed between the first inner cover and second inner cover. The rotating mechanism having two bearings, a shaft sleeve, and two snap springs, the two bearings fixed to the first inner cover and the second inner cover respectively, and the shaft sleeve fixed inside the two bearings and fixed to the inner cover via the two snap springs.

#### Analysis

The parties disagree over whether “rotating mechanism” is a means plus function term or describes structure. Because it does not use the term “means,” it is presumptively not means plus function. *See supra* Part II.B. The issue is whether to a POSITA, the term would connote a particular structure or class of structures. Golabs’ expert, Dr. Singhouse, opines it would not. *See* Singhouse Decl. ¶ 81 [114-1]. Unicorn’s expert, Dr. Maslen, opines it would. *See* Maslen Decl. 10 [90].

Based on my review of the claims, including these examples, it is my opinion that the term “rotating mechanism” is not a means-plus-function limitation

and should not be limited to the embodiment described in the specification. For example, the rotating mechanism limitation recited in dependent Claim 5 of the '155 Patent is basically the same as the embodiment described in the '155 Patent specification. Because Claim 1 of the '155 Patent uses the term "rotating mechanism" and is not so limited, a POSITA would understand that the term "rotating mechanism" refers to a physical structure but is not limited to the exemplary embodiment described in the specification.

That point is further illustrated by the various claims in the '036 Patent, which shares the same specification and includes claims directed to various embodiments, including variations with either one cylindrical barrel, bearing, and shaft, or two cylindrical barrels, bearings, and shafts—all with no mention of the snap springs. A POSITA would understand that various configurations of the "rotating mechanism" were possible based on design preferences.

I understand that means-plus-function treatment should not apply if a POSITA reading the specification would understand the term used to be the name for the structure that performs the function, even if the term covers a broad class of structures and even if the term identifies structures by their function. In reading the term "rotating mechanism" as used in the patents, I would understand it to refer to a specific type of structural element that could be configured in a variety of ways, similar to the term "locking mechanism."

Finally, the prior art '278 Chen Patent, which is part of the prosecution history, acknowledges at column 3, lines 42-45, that "[p]ivoting or rotating shaft arrangements are known in the art, and others may be used without deviating from the present invention as long as the foot placement sections may move independently." To a POSITA, it should be clear that the term "rotating mechanism" here refers to a configuration of mechanical structures arranged to permit rotation of the first and second halves of the inner covers relative to one another (which may include but is not limited to a shaft sleeve with at least one bearing and a barrel, or a shaft sleeve with two bearings and two snap springs)—as the '278 Chen Patent affirms that a POSITA readily understands that there are numerous different rotating arrangements that could be used as a "rotating mechanism." In fact, Dr. Singhoose agrees with the '278 Chen Patent acknowledgement that different rotating arrangements are known in the art. See Singhoose Declaration, Appendix B at 7; Singhoose Deposition at 33:23-34:14.

*Id.* Both experts are impressively qualified. On this point, however, the Court finds Dr. Maslen more persuasive. The Court thus adopts the statement of Dr. Maslen quoted above regarding a POSITA as the Court's fact findings on that point.

Additionally, as Dr. Maslen alludes, the doctrine of claim differentiation supports that conclusion. Claim 5 adds the very language Golabs purports to import into claim 1. That suggests that it should not be part of claim 1. *See, e.g., TEK Glob., S.R.L. v. Sealant Sys. Int'l Inc.*, 920 F.3d 777, 786 (Fed. Cir. 2019).<sup>4</sup> Moreover, other courts have held that “mechanism” is not a nonce word that invokes means plus function. *See Integrity Worldwide LLC v. Rapid-EPS Ltd.*, 2018 WL 3609430, at \*4-5 (N.D. Tex. May 29, 2018) (locking mechanism); *Nanology Alpha LLC v. WITecWissen. Instr. & Tech. GmbH*, 2017 WL 5905272, at \*9-11 (E.D. Tex. Nov. 30 2017) (movement mechanism); *Accuhale LLC v. AstraZeneca LP*, 2013 WL 4045904, at \*8 (E.D. Tex. Aug. 7 2013) (rotation mechanism).

Accordingly, the Court holds that Golabs has failed to overcome the presumption that “rotating mechanism” is not means plus function. The Court, however, has a little difficulty with Unicorn’s proposition that no construction is necessary. The Maslen Declaration establishes that the term would be understood by a POSITA, but not necessarily by a lay juror. The Court will therefore adopt the construction from the Maslen Declaration: a “rotating mechanism” is a configuration of mechanical structures, known

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<sup>4</sup> The Court acknowledges that claim differentiation is a doctrine, not an ironclad rule. *See Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991).

to a POSITA at the time, arranged to permit rotation of the first and second halves of the inner covers relative to one another (which may include but is not limited to a shaft sleeve with at least one bearing and a barrel, or a shaft sleeve with two bearings and two snap springs).

**D. “BEARING”**

Unicorn’s Proposal

plain and ordinary meaning

alternatively, a machine part in which another part turns or slides

Golabs’ Proposal

First: a machine element that constrains relative motion to only the desired motion and reduces friction between a rotating part and its housing

Second: a machine element that constrains relative motion to rotation and reduces friction between a rotating part and its housing

Analysis

The principal point of dispute is whether the general term “bearing” should be limited to one specific type of bearing, i.e., a rotary bearing. Golabs’ expert, Dr. Singhose, states: “The ordinary meaning of a bearing is a machine element that constrains relative motion to only the desired motion and reduces friction between a moving part and its housing.” Singhose Decl. ¶ 90. Yet Golabs seeks to limit the ordinary meaning to one type of bearing because only that type is shown in the specification. That violates the cardinal rule against importing limits in an embodiment into the claims. *See Electro Med.*

*Sys., supra.* The Court will adopt the ordinary meaning, as proposed by Dr. Singhouse: a machine element that constrains relative motion to only the desired motion and reduces friction between a moving part and its housing.

**E. “LIMITING SHAFT”**

Unicorn’s Proposal

plain and ordinary meaning

Golabs’ Proposal

Indefinite

Analysis

The Court acknowledges that this sounds like a structural element. Because the word “means” is not used, the Court presumes that this is not a means plus function term. However, Unicorn points to no evidence, intrinsic or extrinsic, that describes such a structure, or the plain and ordinary meaning of the phrase to a POSITA at the time. The Court concludes that Golabs has rebutted the presumption, and that this is a means plus function term. The function is reasonably clear: a shaft that limits the relative rotation of the two objects connected by the shaft. Because no structure is identified, the Court holds that this term is indefinite.

**F. “AN INNER COVER FIXED BETWEEN THE TOP COVER AND BOTTOM COVER”**

Unicorn’s Proposal

plain and ordinary meaning, incorporating the definitions for the terms “inner cover” and “fixed”

Golabs' Proposal

an inner cover (as defined) fixed (as defined) inside the top cover and bottom covers so that it is not exposed

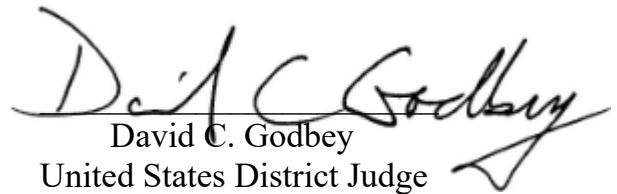
Analysis

*See Part III.B, above. No further construction is necessary.*

**CONCLUSION**

The Court orders that the various patent terms are construed as indicated. The Court has attempted to address all of the terms the parties believe require construction, but acknowledges that it may have missed something. If there are additional terms requiring construction that are not adequately addressed by this Order, the parties may request clarification. The Court will by separate order establish a schedule for resolution of the remaining issues in the case.

Signed May 26, 2020.

  
David C. Godbey  
United States District Judge